



European Code against Cancer 4th Edition: 12 ways to reduce your cancer risk[☆]



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ARTICLE INFO

Article history:

Received 9 April 2015

Received in revised form 8 May 2015

Accepted 11 May 2015

Available online 9 July 2015

ABSTRACT

This overview describes the principles of the 4th edition of the European Code against Cancer and provides an introduction to the 12 recommendations to reduce cancer risk. Among the 504.6 million inhabitants of the member states of the European Union (EU28), there are annually 2.64 million new cancer cases and 1.28 million deaths from cancer. It is estimated that this cancer burden could be reduced by up to one half if scientific knowledge on causes of cancer could be translated into successful prevention. The Code is a preventive tool aimed to reduce the cancer burden by informing people how to avoid or reduce carcinogenic exposures, adopt behaviours to reduce the cancer risk, or to participate in organised intervention programmes. The Code should also form a base to guide national health policies

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Abbreviations: DG SANTE, Directorate-General for Health and Food Safety; EC, European Commission; EU, European Union; HPV, human papilloma virus; HBV, hepatitis B virus; HIV, human immunodeficiency virus; HRT, hormone replacement therapy; IARC, International Agency for Research on Cancer; PICOS, Population, Intervention, Control, Outcome, Study design; UK, United Kingdom; UV, ultraviolet; UVR, ultraviolet radiation; WG, working group; WCRF/AICR, World Cancer Research Fund/American Institute of Cancer Research; WHO, World Health Organization.

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³ (See Appendix).

Keywords:

Cancer prevention
Cancer risk factors
Cancer screening
Europe

in cancer prevention. The 12 recommendations are: not smoking or using other tobacco products; avoiding second-hand smoke; being a healthy body weight; encouraging physical activity; having a healthy diet; limiting alcohol consumption, with not drinking alcohol being better for cancer prevention; avoiding too much exposure to ultraviolet radiation; avoiding cancer-causing agents at the workplace; reducing exposure to high levels of radon; encouraging breastfeeding; limiting the use of hormone replacement therapy; participating in organised vaccination programmes against hepatitis B for newborns and human papillomavirus for girls; and participating in organised screening programmes for bowel cancer, breast cancer, and cervical cancer.

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1. Introduction

Cancer is the second leading cause of death in Europe [1]. For the 28 member states of the EU (EU28) – which are Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom (UK) – with a total population of 504.6 million inhabitants in 2012, the estimated cancer burden for 2012 was approximately 1.43 million new cancer cases in men and 1.21 million new cancer cases in women, and 716,000 cancer deaths in men and 561,000 cancer deaths in women, all figures excluding non-melanoma skin cancer [2].

It has been estimated that up to half of the cancer burden is preventable [3,4]. Successful prevention requires a combination of individual preventive action (by avoiding or reducing harmful exposures) and group action (when exposure is eliminated or reduced by measures effective at the population level). For individuals to engage in successful prevention and reduction of their cancer risk, they need to be informed about evidence-based actions to reduce their risk of cancer. The European Code against Cancer is a set of recommendations providing such advice on prevention of cancer. Its 3rd edition, published in 2003 [5] (originally the Code was developed in 1987 and revised in 1994), lists seven recommendations on the adoption of healthier lifestyles to improve many aspects of general health and the prevention of many cancer deaths; four recommendations were listed as successful interventions (screening and vaccinations). With the dynamics of expanding knowledge intrinsic in science, the European Commission mandated the International Agency for Research on Cancer (IARC) based in Lyon (France) to revise the 3rd edition, taking into account the most up-to-date and best available scientific evidence on causation and prevention of cancer. Working Groups (WGs) were established accordingly to revise the existing recommendations or suggest additional recommendations where new scientific evidence had become available. A Scientific Committee of lead experts on cancer prevention in Europe was established to review the suggestions, and then to approve the final version.

Here, we present an overview of the principles of the European Code against Cancer update and the definition of the target population, the methods used by the WGs to update the evidence, and the principles of communication to ensure the recommendations are fully understood by the target audience, namely the European citizen. Most importantly, here we present the 4th edition of the European Code against Cancer.

2. Principles and methods

2.1. Principles

The European Code against Cancer 4th edition was built on the following four principles:

- 1) Sufficient scientific evidence that following the recommendation to avoid or reduce exposure to a harmful agent, or to adopt a healthy behaviour, or participate in screening or vaccination activities would reduce the individual's risk of developing cancer or dying from cancer.

All recommendations needed to be scientifically justified, following procedures outlined below. Importantly, the Code aims at causes of cancer or interventions shown to reduce the risk of developing or dying from cancer; hence, for the individual there is a scientifically established benefit, albeit obviously acknowledging the impossibility of totally avoiding cancer. Avoiding exposures of possible carcinogenicity where there is scientific uncertainty is not part of the recommendations.

- 2) The recommendations are suitable for a broad target population.

It was ensured that recommendations be applicable to a broad target audience. The intention was not to neglect or downplay risks, particularly affecting vulnerable groups (e.g., smaller high-risk groups), but it was felt that they needed preventive efforts more focused on their particular requirements. For such situations, however, the Code attempts to raise awareness in the general population by providing information (see below).

- 3) The recommendation is something individuals can do to reduce their cancer risk.

As outlined above, successful prevention is a combination of individual actions and policies and community actions. A principle in the recommendations of the 4th edition of the European Code against Cancer was to focus on risks modifiable by the individual. The intention was not to downplay the responsibility of health decision-makers, but to provide a tool for people responding to the question “what can I do to reduce my cancer risk”.

- 4) The recommendation can be clearly and succinctly communicated to the general population.

Another principle was to avoid recommendations that would give confusing or mixed messages to people. This is particularly the case when an individual risk–benefit analysis is needed to assess whether the exposure carries a benefit that may outweigh the potential risk. An example is exposure to medical radiation. X-rays are carcinogenic to humans; however, refusing an imaging examination may have fatal consequences [6,7]. Also some pharmaceuticals fall into this category [7]. Therefore, each recommendation was phrased in a way that it: (i) can be understood by the general population, (ii) is memorable and/or recognisable, (iii) creates a sense that cancer can be prevented, (iv) enhances motivation to change, and (v) can be used across Europe as a basis for public education.

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